



#24 Appeal Brief
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT: Fulps Vincentinus Vermeer CONF. NO.: 1102
SERIAL NO.: 08/909,001 GROUP: 2684
FILED: August 8, 1997 EXAMINER: P. Tran
FOR: A WIRELESS TERMINAL ADAPTED FOR DETACHABLE
CONNECTING WITH A RADIO

RECEIVED

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BRIEF FILED ON BEHALF OF APPELLANT
FILED UNDER PROVISIONS OF 37 C.F.R. § 1.192

Technology Center 2600

Assistant Commissioner for Patents
Washington, D.C. 20231

November 25, 2002

Dear Sir:

This is an Appeal from the Final Rejection of April 23, 2002, of claims 1-11. This Appeal Brief is submitted in support of the Notice of Appeal filed on August 23, 2002, the period for response having been extended for one (1) month from October 23, 2002 to November 23, 2002.

(1) REAL PARTY IN INTEREST:

The real party in interest is Agere Systems Inc.

(2) RELATED APPEALS AND INTERFERENCES:

No related appeals or interferences are known.

(3) STATUS OF THE CLAIMS:

Claims 1-2, 4-7 and 9-11 stand finally rejected under 35 U.S.C. §103 as being unpatentable over Huttunen in view of Kodama and Mallien, II (hereinafter Mallien).

Claims 3 and 8 stand finally rejected under 35 U.S.C. §103 as being unpatentable over Huttunen in view of Kodama, Mallien, II and Stein.

(4) STATUS OF ANY AMENDMENT FILED SUBSEQUENT TO FINAL REJECTION:

A Request for Reconsideration was filed on July 23, 2002, entry of which is respectfully requested. No Amendment has been filed after the final rejection of claims 1-11 in the Office Action dated April 23, 2002.

(5) SUMMARY OF THE INVENTION:

It has become increasingly common for a hand-held wireless terminal to be equipped with a wireless telecommunications capability to enable the wireless terminal to transmit information to a host system and/or receive information from the host system, or both. While some of these wireless terminals (*e.g.*, hand-held data-entry devices, notebook computers, *etc.*) are not manufactured with a permanent, integrated radio, they have the capability to connect to a PC radio card through an industry-standard interface, such as PCMCIA. In order to use an external antenna mounted outside the wireless

terminal, a cable typically carries RF signals between the antenna and a connector added to the radio card.

It is desirable for such wireless terminals to display to the user the current status of the radio; for example, to indicate whether the wireless terminal is transmitting or receiving.

In an embodiment of a wireless terminal according to the present invention, visual indicators 201, 203 indicate to a user of the wireless terminal when a radio is currently transmitting and/or receiving (Specification, page 3, line 30 – page 4, line 3). This is accomplished using a signal lead that carries a baseband signal from a radio to the visual radio status indicators, along with an RF signal from the radio to an external antenna (Specification, page 3, lines 4-7). Using only a single, two-lead cable for these signals allows the present invention to indicate the status of the radio, while helping to reduce the cost and difficulty of sending both radio status signaling and RF signals between a radio card and the wireless terminal (*Id.* at lines 7-9).

FIG. 2 illustrates a wireless terminal 200 in accordance with an exemplary embodiment of the present invention. Wireless terminal 200 includes housing 205, transmit indicator 201, receive indicator 203, PCMCIA slot 207, a standard 68-pin connector within wireless terminal 200 (not shown), keypad 209, display 211, antenna 213, cable 215 and detachable connector 217 (Specification, page 4, lines 1-5).

A radio card 100 (shown in FIG. 1) is advantageously capable of being seated in PCMCIA slot 207 in well-known fashion (*Id.* at lines 6-7). Connector 105 on radio card 100 is capable of mating with the 68-pin connector (not shown) within PCMCIA slot 207 (*Id.* at lines 7-8). Radio card 100 transmits and receives most of its signaling with wireless terminal 200 through connector

105 and also gets its power from wireless terminal 200 through connector 105 (*Id.* at lines 8-10).

Radio card 100 is capable of transmitting and/or receiving RF signals (*Id.* at line 13). Detachable connector 103 is provided on radio card 100 to transmit and/or receive RF signals via antenna 213 and cable 215 when connected to detachable connector 217 (*Id.* at lines 16-19). Cable 215 is a coaxial cable comprising a signal lead and a shielding, which shield detachable connectors 103 and 217, and provide a pair of electrical connections (*Id.* at lines 23-25). Detachable connectors 103 and 217 can be, for example, bayonet connectors or any other similar type of connector (*Id.* at lines 25-26).

Radio card 100 provides for the transmission of radio status signals in addition to RF signals over cable 215 and detachable connectors 103 and 217 (*Id.* at lines 28-30). To accomplish this, radio card 100 may frequency division multiplex one or more baseband signals with the RF signals transmitted and received over cable 215 (*Id.* at lines 30-32). Those baseband signals direct current (DC) signals, which are used by wireless terminal 200 to control transmit indicator 201 and receive indicator 203 (Specification, page 4, line 30 – page 5, line 1). Transmit indicator 201 and receive indicator 203 can be, for example, light emitting diodes or any other visual display or tactile device that is capable of indicating to a user when the radio is transmitting, receiving or in standby mode. For example, one signal can indicate that the radio is transmitting and another signal can indicate that the radio is receiving (Specification, page 5, lines 1-5). Table 1 (Specification, page 5) shows that the radio status signals may correspond to different voltage levels.

FIG. 3 depicts a schematic diagram of the electrical connectivity of the radio in radio card 100 and the circuitry in wireless terminal 200 for generating and processing the radio status signals.

In an alternative embodiment, radio card 100 can transmit the radio status signals as a series of DC pulses, as shown in FIG. 5 (Specification, page 5, lines 13-14). When the DC voltage is 0 volts, the radio is neither receiving nor transmitting (*Id.* at lines 14-15). One pulse turns on transmit indicator 201 and turns off receive indicator 203, and another pulse turns off transmit indicator 201 and turns on receive indicator 203 (*Id.* at lines 15-16). Transmit indicator 201 is, for example, on during pulses 501 and 505, and receive indicator is on during pulses 503 and 507 (*Id.* at lines 16-18). FIG. 4 depicts a schematic diagram of the electrical connectivity of the radio in radio card 100 and the circuitry in wireless terminal 200 for generating and processing pulse radio status signals.

(6) ISSUES PRESENTED:

Issue 1: Are claims 1-2 and 4-7, and 9-11 of the subject application rendered obvious under 35 U.S.C. § 103 by U.S. Patent No. 5,903,850 to Huttunen et al. ("Huttunen") in view of U.S. Patent No. 5,805,998 to Kodama ("Kodama") and U.S. Patent No. 4,122,304 to Mallien, II ("Mallien")?

Regarding claims 1, 2, 4-7, and 9-11, the Examiner asserts that Huttunen discloses a wireless terminal including an antenna 2 and a radio 1 in Fig. 1. The Examiner also asserts that Huttunen discloses a cable 6, 8 in Fig. 2 (and in Fig. 4 as elements 6, 38), which is detachably connected to the radio 1 and also connected to the antenna 2. The Examiner further asserts that column 3, line 20 – column 6, line 12 discloses that the cable 6, 8 (or cable 6, 38) carries both an RF signal 10 (Fig. 2) and a baseband signal 10 (Fig. 2) from

the radio to "indications." See the final Office Action dated April 23, 2002 (Paper No. 16), section 4, page 3. However, the Examiner admits that Huttunen fails to disclose teaching a first visual indicator that indicates to a user of the wireless terminal when the radio is receiving (Paper No. 16, section 4, page 4).

The Examiner asserts that Kodama, in column 8, lines 4-24, discloses an indicator 21E (Fig. 3) that indicates to the user the status of a call at any given time. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a telephone apparatus as taught by Kodama in conjunction with a mobile radio communication device as taught by Huttunen in order for the user to easily determine the status of the call at any given time (*Id.*).

The Examiner admits that Huttunen in view of Kodama fails to disclose a second visual indicator that indicates to a user of the wireless terminal when the radio is transmitting (*Id.*). The Examiner asserts that Mallien teaches an indicator 120 (Fig. 3B) for indicating to the user of the when a radio is transmitting in column 5, lines 26-29. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the indicator 120 of Mallien in the mobile radio

communication device of Huttunen in view of Kodama in order for the user to easily determine the status of the call at any given time (*Id.*).

Issue 2: Are claims 3 and 8 rendered obvious under 35 U.S.C. § 103(a) under Huttunen in view of Kodama and Mallien, and further in view of U.S. Patent No. 5,628,055 to Stein ("Stein")?

Regarding claims 3 and 8, the Examiner admits that Huttunen in view of Kodama and Mallien, as applied to claims 1, 2, 4-7, and 9-11, fails to disclose that the radio is integral to a PC radio card (Paper No. 16, section 5, page 4). The Examiner further asserts that Stein discloses a radio 131 integral to a PC radio card in Fig. 10 (*Id.*). The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a modular radio communications system, as taught by Stein, to the mobile radio communication device of Huttunen in view of Kodama and Mallien in order to "enable PC readily radio communicate with other networks [sic]" (Paper No. 16, section 5, page 5).

(7) GROUPING OF CLAIMS

Appellant respectfully requests that the following claims be grouped together as indicated:

Group I: Claims 1-4;

Group II: Claims 6-9;

Group III: Claims 5, 10, and 11.

(8) ARGUMENTS:

A. Group I: Claims 1-4

Independent claim 1 recites a wireless terminal including a first visual indicator, which indicates to a user when a radio is transmitting, and a signal lead for carrying a first baseband signal from the radio to the first visual indicator for activating the first visual indicator.

In section 4 of the final Office Action dated April 23, 2002 (Paper No. 16), the Examiner admits that Huttunen and Kodama fail to disclose a visual indicator that indicates to a user when a radio is transmitting. The Examiner relies upon the teachings of Mallien, his disclosed transmit indicator 120 in particular, to teach this feature.

In the Response After Final of July 23, 2002 (Paper No. 18), Appellant argued that Mallien's disclosed indicator 120 does not indicate whether the transmitter is actually transmitting, but instead indicates to the user whether or not a phone call can be made. In the Advisory Action of August 15, 2002 (Paper No. 19), the Examiner responds to this argument with the conclusory

statement that "...Mallien, II disclose [sic] an indicator for transmitting (fig. 3B/no. 120, col. 5/ln. 26-29)."

Mallien discloses a radio telephone including a radio transmitter 13, a handset 10, and an indicator 120. Appellant respectfully submits that Mallien's indicator 120 does not indicate when the transmitter is actually performing a transmitting operation. Rather, the section of Mallien cited by the Examiner in Paper No. 19 states that the indicator 120 is "illuminated *whenever the radio transmitter is on*" (column 5, lines 26-29; emphasis added). Column 6, lines 49-66 of Mallien specifically discusses the operation of the indicator 120. According to this section, the user dials the phone number of the party to which the call is destined, and then picks up the headset. The radio telephone then scans for available channels in response to the user picking up the handset 10. Mallien teaches that the green transmit indicator 120 illuminates if an available channel is found, and a red busy indicator 153 illuminates if all channels are busy.

In lines 63-65 of column 6, Mallien further states that once the transmit indicator 120 indicates a channel is available, and a dial tone is received over this channel, the user may depress the send button to transmit the dialed phone number. Accordingly, Mallien's transmit indicator 120 merely indicates to a user when the other party's phone number *may be transmitted* – it does

not indicate when the radio telephone is *actually transmitting* the dialed number (or any other signals).

Furthermore, nothing in Huttunen, Kodama, or Mallien, taken alone or in combination, teaches or suggests carrying a baseband signal from a radio to a visual indicator. Mallien specifically discloses that “the transmit indicator 120 is enabled by the supervisory key line 105 or the push-to-talk output line 121 *from the cradle computer 40*” (Mallien at column 5, lines 26-29 (emphasis added)). Although the Examiner indicates that Huttunen discloses a line 10 carrying baseband signals from a radio¹, Huttunen fails to disclose that this line 10 carries baseband signals from a radio to an indicator.

Instead, Huttunen discloses a coaxial cable 6 connecting a mobile phone 1 to external devices in a car. Huttunen discloses that the coaxial cable 6 can communicate RF signals between mobile phone and either an external antenna, a microphone, or a loudspeaker of the car (see column 1, lines 37-43). Huttunen also discloses that the cable 6 can be used to carry digital control/data signals between the mobile phone 1 and other external devices of the car. Examples of such signals are status signals indicating the state of an ignition switch of a car, control signals from an external alarm, etc. See column 3, line 48 – column 4, line 17. Huttunen discloses that inside the

¹ The Examiner relies on Huttunen’s disclosure in Fig. 2, element 10, and column 3, lines 20-30, to teach a baseband signal carried from the radio. See Paper No. 16, section 4, page 3.

mobile phone 1, the RF signals and digital signals are separated into lines 9 and 10 of Fig. 2, respectively.

However, there is no disclosure in Huttunen that the coaxial cable 6 carries signals between a radio and any visual indicator. As discussed above, Huttunen discloses that RF signals may be carried between radio circuitry and a loud speaker (e.g., between the antenna 2 of the mobile phone 1 and the car speaker, or between the car's external antenna and the phone 1). However, the only disclosure of Huttunen that reasonably suggests the coaxial cable 6 carrying signals to a visual indicator is the teaching that a digital status signal may be received from an ignition switch to the mobile phone 1.

To establish a *prima facie* case of obvious, all the claimed limitations must be taught or suggested by the prior art. In re Royaka, 490 F.2d 281, 180 USPQ 580 (CCPA 1974). For the reasons discussed above, the Examiner has failed to provide any teaching or suggestion in the prior art of an indicator that indicates to a user of a wireless terminal when a radio is transmitting, as required by claim 1. The Examiner has also failed to provide any teaching within the cited prior art of a baseband signal being carried from a radio to a visual indicator, as required by independent claim 1. Therefore, Appellant respectfully submits that the Examiner has failed to provide a *prima facie* case of obviousness with respect to independent claim 1.

Furthermore, even assuming for the sake of argument that all the claimed limitations were taught, Appellant respectfully submits that the Examiner has failed to provide the required teaching, suggestion or motivation to combine the cited prior art references. The teaching or motivation to combine references must be based on objective evidence of record, i.e., based on an analysis of the prior art. In re Lee, 61 U.S.P.Q.2d 1430, 1433 (C.A.F.C. 2002).

The only statement resembling a teaching or motivation to combine Huttunen and Kodama is in Paper No. 16, section 4, page 4, where the Examiner asserts it would have been obvious to make the Huttunen/Kodama combination "in order to easily determine the status of the call at any given time." (Paper No. 16, section 4, page 4). The Examiner also asserts that it would have been obvious to implement Mallien's indicator in the Huttunen/Kodama device "in order to easily determine the status of the call at any time." (*Id.*). The Examiner fails to point out any teaching in the prior art or other objective evidence to support this broad conclusory statement.

Accordingly, Appellant respectfully submits that the Examiner's combination of Huttunen, Kodama, and Mallien is based on hindsight, using Appellant's disclosure as a blueprint, which is not permitted. C.R. Bard, Inc. v. M3 Systems, 48 U.S.P.Q. 1225 (C.A.F.C. 1998); Interconnect Planning Corp. v.

Feil, 227 U.S.P.Q. 543 (C.A.F.C. 1998); In re Rouffet, 47 U.S.P.Q.2d 1453, 1459 (C.A.F.C. 1998).

Appellant respectfully submits that claim 1 is allowable at least for the reasons set forth above. Further, Appellant respectfully submits that claims 2-4 are allowable at least by virtue of their dependency on claim 1.

B. Group II: Claims 6-9

Independent claim 6 recites a wireless terminal including a first visual indicator, which indicates to a user when a radio is receiving, and a signal lead for carrying a first baseband signal from the radio to the first visual indicator for activating the first visual indicator.

Appellant notes with appreciation the time and effort taken by Examiner Tran on July 17, 2002 to discuss the art grounds of rejection of claim 6 with Appellant's representative, Mr. Jason Rhodes. The substance of that interview is discussed in detail below with respect to these art grounds of rejection.

During the interview, the parties discussed the Examiner's interpretation of Huttunen in view Kodama and Mallien as reading on the elements recited in claim 6. During that interview, the Examiner indicated that the light emitting diode (LED) 21E disclosed in Figure 3 of Kodama is a visual indicator, which indicates to a user when the radio receiver 21C is receiving, because it is

caused to illuminate by a LED-on signal sent via radio transmission.

Therefore, the Examiner asserted that the first visual indicator recited in independent claim 6 reads on the LED 21E of Kodama.

Appellant respectfully submits that Kodama provides no teaching to support the Examiner's position that the LED 21E indicates to a user when a radio is receiving, as recited in claim 6. Kodama teaches a cordless telephone including a master unit 100 connected to an external telephone line, and a slave unit 200 (hand set) for communicating speech signals between the user and the master unit 100. See Fig. 1; column 4, line 66 - column 5, line 2. The master unit 100 is normally powered by a main power supply 23 connected to a commercial AC line, but also includes a sub power supply 24 to provide DC power in the event of a stoppage of AC power (column 5, line 49 - column 6, line 1). Kodama's sub power supply 24 includes an auxiliary DC power source 24a, e.g., a battery (column 6, lines 4-11).

When an AC power stoppage occurs, and the master unit 100 uses the sub power supply 24, Kodama discloses that the master unit 100 periodically checks the voltage level across the auxiliary battery while communicating the speech signals with the slave unit 200 (Fig. 4; column 9, line 35 - column 10, line 4). If this voltage level falls below a certain threshold, the master unit 100 will transmit an LED-on signal to the slave unit 200 instead of the normally

transmitted speech signals to indicate to the user the drop in voltage across the auxiliary battery (column 10, lines 4-18). The LED 21E is thereafter intermittently activated by a CPU 21D within the slave unit (column 8, lines 15-24; column 10, lines 15-18).

Since the LED 21E does not illuminate each time the radio signals are received from the main unit 100 (i.e., LED 21E does not illuminate when the speech signals are being received by the slave unit 200), the LED 21E cannot be interpreted as an indicator that indicates to a user when a radio *is receiving*. Rather, the LED 21E only indicates that the auxiliary power source 24a has a low voltage level.

The LED 21E cannot be interpreted as an indicator indicating when a radio is receiving the LED-on signal from the main unit 100, because Kodama teaches that the LED 21E continues to intermittently activate after the LED-on signal is received. Claim 6, on the other hand, requires “a visual indicator that indicates when a radio *is receiving*” (emphasis added). Since the user of Kodama’s phone cannot determine whether a radio in the slave unit 200 is *currently receiving* radio signals based on the LED 21E, Kodama fails to teach or suggest the visual indicator of claim 6.

In addition, the mobile phone disclosed by Huttunen receives all external control signals over the coaxial cable 6 (Huttunen at column 3, lines 21-27).

Accordingly, Appellant respectfully submits that in the Examiner's proposed combination of Huttunen and Kodama, the indicator signal (LED-on signal) of Kodama would be transmitted to the mobile phone 1 of Huttunen by means of Huttunen's cable 6. Therefore, based on the Examiner's logic, the LED-on signal sent to the mobile phone in the Huttunen/Kodama system would not indicate when a radio is receiving, because the LED-on signal would not be transmitted via radio signals.

Furthermore, nothing in Huttunen, Kodama, or Mallien, taken alone or in combination, teaches or suggests carrying a baseband signal from a radio to a visual indicator. Kodama discloses in column 10, lines 13-18 that "the CPU 5 controls the radio transceiver to transmit an LED-on signal to the slave unit 200. When the slave unit receives the LED-on signal, the LED 21E in the s[la]ve unit 200 is periodically activated..." Accordingly, there is no disclosure in Kodama that a signal is sent from a radio to a visual indicator. Also, as discussed with respect to the claims in Group I above, neither Huttunen nor Mallien teach or suggest that a baseband signal is sent from a radio to a visual indicator.

For the reasons stated above, the Examiner has failed to show where the prior art teaches or suggests a visual indicator, which indicates to a user of a wireless terminal when a radio is receiving, and which receives a baseband

signal from a radio. Therefore, the Examiner has failed to provide a *prima facie* case of obviousness with respect to independent claim 6.

Also, the Examiner has failed to provide a teaching, suggestion or motivation to combine Huttunen, Kodama, and Mallien for the reasons stated above with respect to claims 1-4 (*Ante*, at pages 12-13). Instead, the Examiner's proposed combination of these references is based on impermissible hindsight reasoning, using Appellant's disclosure as a blueprint.

Appellant respectfully submits that claim 6 is allowable at least for the reasons set forth above. Accordingly, Appellant submits that claims 7-9 are allowable at least by virtue of their dependency on claim 6.

C. Group III: Claims 5, 10, and 11

Claims 5, 10, and 11 each require both a first visual indicator that indicates to a user of the wireless terminal when the radio is transmitting, and a second visual indicator that indicates when the radio is receiving. For the reasons discussed above, the Examiner has failed to show where the prior art teaches or suggest *either* of these indicators. Furthermore, the Examiner has failed to provide the requisite teaching, suggestion or motivation to combine the Huttunen, Kodama and Mallien references. Accordingly, Appellant respectfully

submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 5, 10, and 11.

(9) CONCLUSION

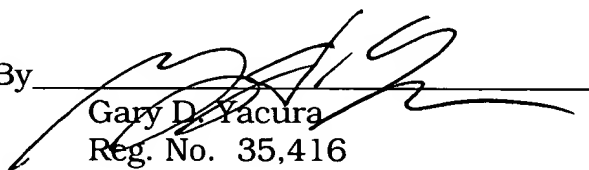
For the reasons advanced above, it is respectfully submitted that all the claims in this application are allowable. Thus, favorable reconsideration and reversal of the Examiner's rejection of claims 1-11 under 35 U.S.C. § 103(a) by the Honorable Board of Patent Appeals and Interferences, is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

HARNESS, DICKEY & PIERCE, P.L.C.

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(9) APPENDIX OF CLAIMS INVOLVED IN APPEAL

1. A wireless terminal comprising:
an antenna;
a first visual indicator that indicates to a user of said wireless terminal when a radio is transmitting; and
a signal lead for carrying an RF signal from said radio to said antenna and from said antenna to said radio and for carrying a first baseband signal from said radio to said first visual indicator for activating said first visual indicator.
2. The wireless terminal of claim 1 further comprising said radio.
3. The wireless terminal of claim 2 wherein said radio is integral to a PC radio card.
4. The wireless terminal of claim 1 wherein said signal lead is connected to said radio by a detachable connector.
5. The wireless terminal of claim 1 further comprising a second visual indicator that indicates when said radio is receiving and wherein said signal lead also carries a second baseband signal from said radio to said second visual indicator.
6. A wireless terminal comprising:
an antenna;

a first visual indicator that indicates to a user of said wireless terminal when a radio is receiving; and

a signal lead for carrying an RF signal from said radio to said antenna and from said antenna to said radio and for carrying a first baseband signal from said radio to said first visual indicator for activating said first visual indicator.

7. The wireless terminal of claim 6 further comprising said radio.
8. The wireless terminal of claim 7 wherein said radio is integral to a PC radio card.
9. The wireless terminal of claim 6 wherein said signal lead is connected to said radio by a detachable connector.
10. The wireless terminal of claim 6 further comprising a second visual indicator that indicates when said radio is transmitting and wherein said signal lead also carries a second baseband signal from said radio to said second visual indicator.
11. A wireless terminal comprising:
 - a radio;
 - an antenna;
 - a first visual indicator that indicates to a user of said wireless terminal when said radio is operating; and

a cable that is detachably connected to said radio and that is also connected to said antenna for carrying an RF signal and for carrying a baseband signal from said radio to said first visual indicator;

wherein said first visual indicator indicates when said radio is receiving and further comprising a second visual indicator that indicates when said radio is transmitting and wherein said cable also carries a second baseband signal from said radio to said second visual indicator.